Product Description Document
Probabilistic Tropical Cyclone Storm Surge and Tide above Datum

Part I - Mission Connection

a. Product Description – The Probabilistic Tropical Cyclone Storm Surge and Tide above Datum consist of two suites of graphics:

1) Probability of storm surge and tide above datum – Series of graphics which show probabilities, in percent, of storm surge with tide exceeding 2 through 25 feet above North American Vertical Datum of 1988 (NAVD88), at 1 foot intervals.

2) Exceedance height of storm surge and tide above datum – Series of graphics which show heights of storm surge with tide, in feet above NAVD88, which will be exceeded by a given percentage of storms. The suite of graphics range from 10 to 90 percent, at 10 percent intervals.

b. Purpose – The graphics are intended to provide users with information which enhances their ability to make preparedness decisions specific to their own situations. The graphics originated from requests by users for additional tropical cyclone probabilistic information, and the National Research Council's Fair Weather Report encouraging probabilistic products.

c. Audience – The emergency management community is the primary target audience. However, the graphics will also be widely used by other federal, state, and local government agencies; the media; maritime interest; and the general public.

d. Presentation Format – Graphics are provided as a PNG file and Google map interface at: http://www.nws.noaa.gov/mdl/psurge2.0/.

GRIB2, KMZ, and ESRI shape files can be downloaded from the website.

The data is also available over the Satellite Broadcast Network (SBN) and NOAAPort.

e. Feedback Method

Questions and comments may be addressed to:

Technical questions:
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Part II - Technical Description

a. Format & Science Basis – The graphics are a statistical output from an ensemble of Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model runs. All ensemble members are based on the current National Hurricane Center (NHC)'s tropical cyclone advisory. Ensemble members take into account historical error characteristics by varying input parameters such as forward speed, cross track location, radius of maximum wind, and hurricane intensity. Each ensemble member has a specific time associated with it, which allows SLOSH to calculate a gridded tide which it combines with the surge thereby producing overland flooding based on storm surge + tide (aka storm tide).

b. Product Availability - The graphics are available whenever a hurricane watch or warning is in effect for any portion of the Gulf of Mexico or Atlantic coasts of the continental United States. On a case by case basis the graphics will also be available whenever a tropical storm watch or warning is in effect. Updates are available about one hour after the issuance of routine NHC tropical cyclone advisories (03, 09, 15, and 21 Coordinated Universal Time - UTC).

Graphics can be seen at: http://www.nws.noaa.gov/mdl/psurge2.0/ by selecting "Above Datum" from the Datum drop down menu on the left hand side.

c. Additional Information - A full description of other NWS Tropical Cyclone Weather Services Program Products is provided in NWSI 10-601, which is available at: http://www.nws.noaa.gov/directives/010/010.htm